

**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT** Beau Fearon

**SPECIES** Canine

**BREED** Maltese mix

**SEX** Male, neutered

**AGE** 10 Yrs.

**WEIGHT** 12.2 kg.

**INTERPRETED BY** Andrea Nicastro, DVM, Diplomate ACVIM (Small Animal Internal Medicine)

**IMAGING PERFORMED BY** Kelly Reshny, RVT

**HOSPITAL NAME** Graham AH

**REFERRING VET** Dr. Lukacas

**INVOICE** 12075

**DATE** 9/14/21

**History:** Recurrent diarrhea, decreased appetite for one year. Worsening in severity. Worsening liver values. Worsening signs of Cushing's disease (PU/PD, panting, etc). Diarrhea resolves with metronidazole. 4 episodes of diarrhea in last year. Repeat fecal testing negative. Diagnosed with hyperadrenocorticism based on LDDST in April 2018. Has been receiving melatonin 3 mg PO BID and HMR lignans 10 mg PO SID. Clinical signs of Cushing's have been well maintained with this protocol until this year. Worsening PU/PD, panting, restlessness, pot bellied appearance, hair thinning noted. Aug. 2020 suspected pancreatitis, diarrhea, nausea, abdominal pain, resolved with SQF, metronidazole, cerenia, famotidine, gabapentin PO. Switched food to Royal Canin Gastrointestinal Low Fat kibble and Hills i/d Low Fat canned. May 19, 2021: 1 week hx of decreased appetite, lethargy, diarrhea. Febrile (39.9 C), abdominal discomfort, QAR. aFAST no abdominal free fluid, concern for heterogenous region of liver, "sludge" in gallbladder. - CBC/Biochemistry: ALT 191 U/L, ALKP >2000 U/L. - Snap4dx negative. - Tx SQF, cerenia x 5 days, clavaseptin x 2 weeks, zentonil advanced. metronidazole x 2 weeks. Fever resolved at recheck 2 days later, clinical signs improving. Sept. 8, 2021: Recurrent clinical signs. Diarrhea, decreased appetite, lethargy, mild abdominal discomfort on palpation. Vitals WNL. - CBC/Biochemistry: Urea 11.9 mmol/L, ALT 169 U/L, ALKP 1585 U/L - Tx metronidazole, x 2 weeks, cerenia x 4 days Not UTD on preventative medication or leptospirosis/DAPv vaccination. currently on metronidazole 125mg BID

**Abnormal PE/Chem/CBC/UA Results:** Aug. 2020 - CBC/biochemistry WNL except ALKP 810 U/L. May 19, 2021: - CBC/Biochemistry: ALT 191 U/L, ALKP >2000 U/L. - Snap4dx negative. Sept. 8, 2021: - CBC/Biochemistry: Urea 11.9 mmol/L, ALT 169 U/L, ALKP 1585 U/L

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is mildly distended. In the region of the apex, the wall is thickened (up to 0.53 cm) with a slightly irregular mucosal surface. An aggregation of mineralized debris is present within the lumen. The region of the trigone and the visible portion of the proximal urethra are normal.

The prostate is normal in size (1.15 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

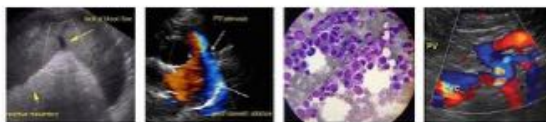
The left kidney is normal size (5.41 cm in length) with a normal shape and smooth peripheral contours. The cortex is mildly thickened and hyperechoic and there is moderate loss of corticomedullary distinction. Several small cortical cysts are visualized. Hyperechoic shadowing diverticular foci are seen along with a few small nephroliths. There is no evidence of pyelectasia or hydroureter. Renal vasculature is normal.

The right kidney is normal size (5.59 cm in length) with a normal shape and smooth peripheral contours. The cortex is mildly thickened and hyperechoic and there is moderate loss of corticomedullary distinction. A few small cortical cysts are visualized. Hyperechoic shadowing diverticular foci are seen along with a few small nephroliths. There is no evidence of pyelectasia or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is normal size (0.39 cm at cranial pole) (0.44 cm at caudal pole) (1.47 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (1.10 cm at cranial pole) (0.54 cm at caudal pole) (2.15 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are



**PATIENT**

unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Beau Fearon

*Spleen*

**SPECIES**

The spleen is normal in size (1.33 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

Canine

**BREED**

*Liver*

Maltese mix

The liver is subjectively prominent in size with normal curvilinear peripheral contours. The parenchyma is hypoechoic relative to the spleen with minor changes consistent with age-related remodeling. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is normal in thickness. A few polypoid like lesions are arising from the luminal surface. A small to moderate amount of gravity-dependent echogenic debris is present within the lumen. The cystic and common bile ducts are normal/not seen.

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**AGE**

*Gastrointestinal*

10 Yrs.

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

**WEIGHT**

12.2 kg.

*Pancreas*

**INTERPRETED BY**

The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

Andrea Nicaastro, DVM,  
Diplomate ACVIM  
(Small Animal Internal  
Medicine)

*Free Abdomen*

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

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Kelly Reshny, RVT

**ULTRASONOGRAPHIC FINDINGS**

**HOSPITAL NAME**

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**Primary Findings:**

- The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, regenerative nodular hyperplasia, and/or age-related remodeling. Inflammatory and infiltrative disease are considered less likely.
- Gallbladder debris- non-mucocele.

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**Secondary Findings:**

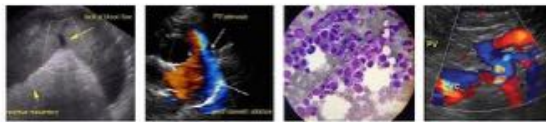
- Bilateral nephropathy with non-obstructive nephroliths.
- Mineralized debris +/- small calculus within the urinary bladder.

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\*An obvious cause for the patient's clinical signs is not identified in this study. Considerations include microscopic gastrointestinal or pancreatic disease, underlying metabolic issue, other.

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Canine

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Consider the following diagnostics:

**BREED**

Maltese mix

1. Serum cobalamin, folate, PLI and TLI
2. A fecal evaluation for ova/Giardia
3. Prophylactic deworming with Fenbendazole at 50 mg/kg once a day for 5 days is recommended. Repeat above protocol in 3 weeks.
4. A 6-week hypoallergenic, low-fat diet trial is recommended to assess for food allergies. Consider a consultation with the nutrition service at the University of Tennessee (<https://vetmed.tennessee.edu/vmc/smallanimalhospital/small-animal-nutrition/nutrition-services/>).
5. Ultimately, endoscopic or surgical gastrointestinal biopsies may be necessary to get a definitive diagnosis.
6. Three-view thoracic radiographs should be performed prior to any anesthetic event.

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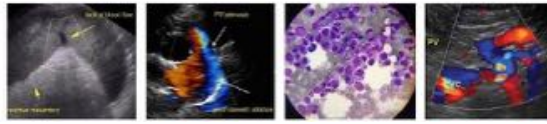
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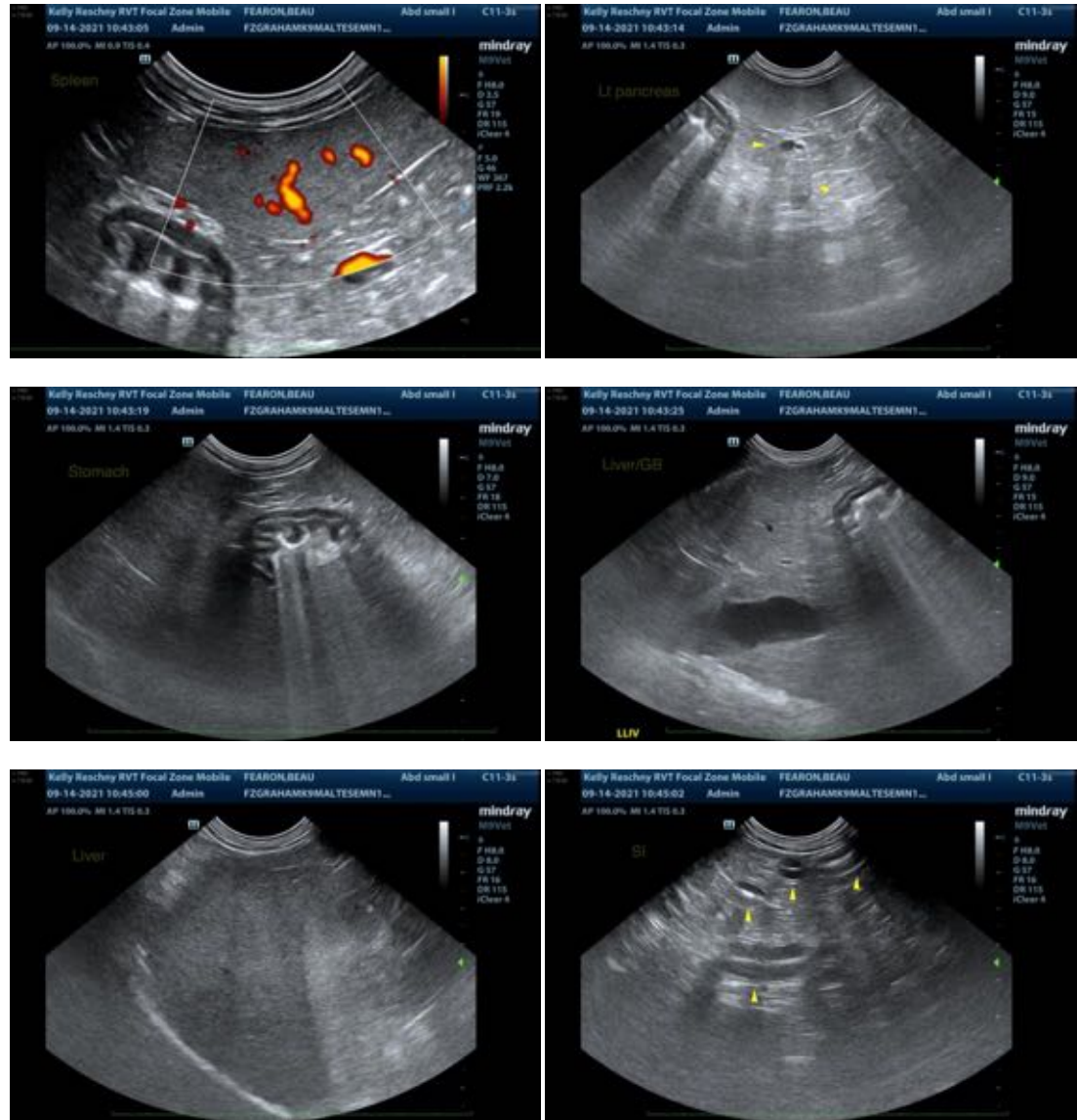
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Andrea Nicastro, DVM, Diplomate ACVIM (Small Animal Internal Medicine)

Andrea.nicastro@sonopath.com